CLAIMS

1. A method of determining the content in bursts to be
   transmitted from a base station in a mobile network on a
5   broadcast frequency in specific timeslots of a broadcast
   frequency frame structure, wherein a logical channel is
   allocated to each timeslot, **characterised by** the
   following steps:
- receiving information on a forthcoming burst to be
10   transmitted,
- checking a current state of the logical channel allocated
   to the forthcoming burst, and
- determining the content in the forthcoming burst
   depending on the current channel state, wherein a dummy
15   burst with a base station specific training sequence is
   transmitted if there is no data to transmit, and if the
   dummy burst cannot be confused with a regular traffic
   burst according to the current channel state, said dummy
   burst having data fields containing no intelligible
20   information to mobile terminals.

2. A method according to claim 1, **characterised in** that a
   dummy burst with a base station specific training
   sequence is transmitted if the channel is not occupied,
25   wherein no connected mobile terminal is listening to the
   channel.

3. A method according to claim 2, wherein at least two
   different modulation forms, including GMSK modulation,
30   can be used for the broadcast frequency, **characterised in**
   that the dummy burst is a GMSK modulated dummy burst.

4. A method according to claim 2 or 3, **characterised in** that
the transmitted dummy burst belongs to a dummy frame in
the form of a fill frame generated at a higher layer in
the network, such as a Layer 2 fill frame.

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5. A method according to claim 1, wherein a single
modulation form can be used for the broadcast frequency,
characterised in that a dummy burst with a common fixed
bit pattern is transmitted, if the channel is occupied

10   but there is no data to transmit.

6. A method according to claim 1, wherein at least two
different modulation forms can be used for the broadcast
frequency, **characterised in** that a dummy burst with a

15   base station specific training sequence is transmitted
using a modulation form other than the one currently used
for the allocated logical channel, if the channel is
occupied but there is no data to transmit.

20   7. A method according to claim 6, wherein GMSK modulation
and 8PSK modulation can be used for the broadcast
channel, **characterised in** that a GMSK modulated dummy
burst is transmitted, if 8PSK modulation is currently
used for the logical channel, or vice versa.

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8. A method according to any of claims 1-3, 6 and 7,
characterised in that the transmitted dummy burst
includes a fixed bit pattern located in the burst on at
least one side of the base station specific training

30   sequence, wherein the fixed bit pattern has, at least
partly, a low cross correlation to all possible training
sequences defined in the network.

9. A method according to any of claims 1-3 and 6-8,
characterised in that the transmitted dummy burst
includes a fixed bit pattern located in the burst on at
least one side of the base station specific training
sequence, wherein the fixed bit pattern is related to
that training sequence in a known manner.

10.A method according to claim 8 or 9, wherein at least two
different modulation forms can be used for the broadcast
frequency, **characterised in** that the fixed bit pattern is
different for the different modulation forms.

11.A method according to any of claims 1-10, **characterised
in** that any DTX mode is disabled for logical channels not
applying frequency hopping with the broadcast frequency
included in the hopping scheme, such that regular traffic
bursts are transmitted even during silent periods.

12.An apparatus for determining the content in bursts to be
transmitted from a base station in a mobile network on a
broadcast frequency in specific timeslots of a broadcast
frequency frame structure, wherein a logical channel is
allocated to each timeslot, **characterised by:**
- means for receiving information on a forthcoming burst to
  be transmitted,
- means for checking a current state of the logical channel
  allocated to the forthcoming burst, and
- means for determining the content in the forthcoming
  burst depending on the current channel state, wherein a
  dummy burst with a base station specific training
  sequence is transmitted if there is no data to transmit,

and if the dummy burst cannot be confused with a regular
traffic burst according to the current channel state,
said dummy burst having data fields containing no
intelligible information to mobile terminals.

13. An apparatus according to claim 12, **characterised in** that
the burst to be transmitted is a dummy burst with a base
station specific training sequence if the channel is not
occupied, wherein no connected mobile terminal is
listening to the channel.

14. An apparatus according to claim 13, wherein at least two
different modulation forms, including GMSK modulation,
can be used for the broadcast frequency, **characterised in**
that the dummy burst is a GMSK modulated dummy burst.

15. An apparatus according to claim 13 or 14, **characterised
in** that the dummy burst to be transmitted belongs to a
dummy frame in the form of a fill frame generated at a
higher layer in the network, such as a Layer 2 fill
frame.

16. An apparatus according to claim 12, wherein a single
modulation form can be used for the broadcast frequency,
characterised in that the burst to be transmitted is a
dummy burst with a common fixed bit pattern, if the
channel is occupied but there is no data to transmit.

17. An apparatus according to claim 12, wherein at least two
different modulation forms can be used for the broadcast
frequency, **characterised in** that the burst to be
transmitted is a dummy burst with a base station specific

training sequence using a modulation form other than the one currently used for the allocated logical channel, if the channel is occupied but there is no data to transmit.

5   18. An apparatus according to claim 17, wherein GMSK modulation and 8PSK modulation can be used for the broadcast channel, **characterised in** that the burst to be transmitted is a GMSK modulated dummy burst, if 8PSK modulation is currently used for the logical channel, or
10 vice versa.

    19. An apparatus according to any of claims 12-14, 17 and 18, **characterised in** that the burst to be transmitted is a dummy burst including a fixed bit pattern located in the
15 burst on at least one side of the base station specific training sequence, wherein the fixed bit pattern has, at least partly, a low cross correlation to all possible training sequences defined in the network.

20 20. An apparatus according to any of claims 12-14, and 17-19, **characterised in** that the burst to be transmitted is a dummy burst including a fixed bit pattern located in the burst on at least one side of the base station specific training sequence, wherein the fixed bit pattern is
25 related to that training sequence in a known manner.

    21. An apparatus according to any of claims 12-20, wherein at least two different modulation forms can be used for the broadcast frequency, **characterised in** that the fixed bit
30 pattern is different for the different modulation forms.

22. An apparatus according to any of claim 12-21, **characterised by** means for disabling any DTX mode for logical channels not applying frequency hopping with the broadcast frequency included in the hopping scheme, such that regular traffic bursts are transmitted even during silent periods.

23. An apparatus according to any of claims 12-22, wherein the apparatus is located in a base station and/or in a network node controlling plural base stations.

24. A computer program product directly loadable into the internal memory of at least one computer, including software code means for performing the method according to any of claims 1-11.

25. A computer program product stored on a computer usable medium, including readable program for causing at least one computer to perform the method according to any of claims 1-11.